The opinion in support of the decision being entered today is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOACHIM ARLT and KARL-HERMANN BUSSE

Appeal 2007-2501
Application 10/026,917[1]
Technology Center 2800

Decided: August 24, 2007

Before ADRIENE LEPIANE HANLON, RICHARD TORCZON, and SALLY C. MEDLEY, *Administrative Patent Judges*.

MEDLEY, *Administrative Patent Judge*.

DECISION ON APPEAL

A. Statement of the Case

Applicants appeal under 35 U.S.C. § 134 from a final rejection of claims 1-4, 6-9, 11, 12, 14, and 15. We have jurisdiction under 35 U.S.C. § 6(b).

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1 Application for patent filed 21 December 2001. The real party in interest is VenTec Gesellschaft für Venturekapital und Unternehmensberatung.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Morita	US 5,815,366	Sept. 29, 1998
Brown	US 5,948,986	Sept. 7, 1999
Hwang	US 6,238,160	May 29, 2001
Wytman	US 6,354,791	Mar. 12, 2002
O'Mara	US 6,444,033	Sept. 3, 2002

Claims 1, 6, 7, 9, 11 and 15 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Hwang (Final Rejection 2 and Answer 3[2]).

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hwang in view of O'Mara (Final Rejection 4 and Answer 4).

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Hwang in view of Wytman (Final Rejection 4 and Answer 4).

Claims 4 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hwang in view of Morita (Final Rejection 5 and Answer 5).

Claims 8 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hwang in view of Brown (Final Rejection 6 and Answer 6).

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2 In the Answer, we assume claim 11 was omitted in error, since claim 15

BACKGROUND

The invention is related to a method and system for manipulating semiconductor substrates. A semiconductor substrate is placed on a transportable electrostatic carrier (chuck) (Specification 13:7-8). The substrate remains on the transportable electrostatic chuck during at least two processing steps (Specification 13:11-14). Both the transportable electrostatic chuck and the substrate are moved through the various processing steps (Specification 14:2-4). The transportable electrostatic chuck is charged beforehand and does not have any additional power supply connected to it during the processing steps to allow the chuck to be moved to the different locations (Specification 12:12-15 and 13:15-18).

B. Issue

The issue is whether Applicants have shown that the Examiner erred in determining claims 1-4, 6-9, 11, 12, 14, and 15 to be unpatentable over the prior art as applied by the Examiner.

C. Findings of fact ("FF")

The record supports the following findings of fact as well as any other findings of fact set forth in this opinion by at least a preponderance of the evidence.

1. Applicants' claims 1-4, 6-9, 11, 12, 14, and 15 are the subject of this appeal.

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which depends from claim 11 stands rejected.

2. The Examiner finally rejected independent claim 1 and independent claim 11, the only independent claims, as being anticipated by Hwang.

3. Claim 1 is as follows:

1. A method of manipulating semiconductor substrates comprising placing a semiconductor substrate on a transportable electrostatic chuck, and keeping the semiconductor substrate clamped on the electrostatic chuck for the duration of and between at least two processing steps of the semiconductor substrate without any additional external power supply to recharge the transportable electrostatic chuck during long or several process steps or operation steps.

4. Claim 11 is as follows:

11. An electrostatic carrier system for manipulating semiconductor substrates, the system comprising at least one transportable electrostatic chuck for a semiconductor substrate and at least one transfer station for transferring the transportable electrostatic chuck with the semiconductor substrate placed thereon between processing steps, the electrostatic chuck being configured so as to clamp the substrate without any additional external power supply to recharge the transportable electrostatic chuck during long or several process or operation steps.

Hwang

5. The Examiner found that Hwang describes placing a semiconductor substrate **26** on a transportable electrostatic carrier item (chuck) **38.** (Final Rejection 2 and Answer 3).

6. The Examiner further found that the semiconductor substrate **26** remains on the chuck **38** during processing steps that include moving the arm and wafer and then rapidly moving the arm into the process chamber. (Final Rejection 2-3 and Answer 3).

7. The Examiner also found that the processing steps of moving the arm and wafer and then rapidly moving the arm into the process chamber are performed under a single power application and "without any additional external power supply to recharge the transportable electrostatic chuck during long or several process steps. . . ." (Answer 3:10).

8. Hwang describes an arm **20** (**Fig. 1**) used for transferring a semiconductor substrate **26** into a chamber **54** (**Fig. 5**).

9. Concentrically disposed within contact member **34** of the arm **20** is a plate **38** (**Fig. 2**) (Hwang 4:41-48).

10. A power source **28** is coupled with the arm **20** through electrical leads **32** (Hwang 4:56-58).

11. One of the leads **32** is connected with contacting member **34** and the other lead is connected to plate member **38** (Hwang 4:59-62 and **Fig. 1**).

12. During the steps of moving the arm **20** (and wafer on top of plate **38**), the power supply remains on and connected so that a charge is maintained to keep the substrate chucked to plate **38** (Hwang 5:28-46).

D. Principles of Law

35 U.S.C. § 102

"A person shall be entitled to a patent unless....the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States" 35 U.S.C § 102(b).

To anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either expressly or inherently. *Verdegaal Bros. Inc., v. Union Oil Co.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

E. Analysis

The Examiner finally rejected independent claims 1 and 11 and dependent claims 6, 7, 9, and 15 as being anticipated under 35 U.S.C. § 102(e) by Hwang. The Examiner relied on Hwang to teach "without any additional external power supply to recharge the transportable electrostatic chuck during long or several process steps or operation steps," recited in both claim 1 and claim 11. The Examiner indicated that the steps of moving the arm **20** and rapidly moving the arm to the process chamber are performed under a single power application and meet the limitation (FF 7).

Applicants argue that Hwang discloses a permanent external voltage supply, but in the claimed invention there is no additional external power supply (Br. 6). In response, the Examiner failed to specifically address Applicants' argument that Hwang describes the opposite of what is claimed.

In Hwang, one of the leads **32** is connected with contacting member **34** and the other lead is connected to plate member **38** (FF 11). During the steps of moving the arm (and wafer on top of plate **38**), the power supply remains connected and on through leads **32** to maintain the charge to plate **38** (FF 12).

Based on the record, the Examiner has failed to sufficiently demonstrate that Hwang describes the limitation "without any additional external power supply to recharge the transportable electrostatic chuck during long or several process steps or operation steps."

Therefore, we cannot sustain the rejection of the claims 1, 6, 7, 9 11 and 15. As applied by the Examiner, none of Morita, Brown, Wytman, or O'Mara makes up for the deficiencies of Hwang.

E. Decision

Upon consideration of the record, and for the reasons given, the Examiner's rejections are reversed.

The Examiner's rejection of claims 1, 6, 7, 9, 11 and 15 under 35 U.S.C. § 102(e) as being anticipated by Hwang is reversed.

The Examiner's rejection of claim 2 under 35 U.S.C. § 103(a) as being unpatentable over Hwang in view of O'Mara is reversed.

The Examiner's rejection of claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Hwang in view of Wytman is reversed.

The Examiner's rejection of claims 4 and 12 under 35 U.S.C. § 103(a) as being unpatentable over Hwang in view of Morita is reversed.

The Examiner's rejection of claims 8 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Hwang in view of Brown is reversed.

REVERSED

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